

Standardized Interim Progress Report

A. Project Identifiers

Award Number: NA16FX1411

Grant Program: NOAA Steller Sea Lion Research Initiative

Name of Recipient Organization: Alaska Department of Fish and Game

Principal Investigator: Edward (Ted) Otis

Project Title: *Improving Access to ADF&G's Lower Cook Inlet Pacific Herring Stock Assessment and Commercial Fishery Databases, Including Observations of Steller Sea Lions (SSLRI Project 2001-12).*

Funding: Federal: \$60,399 Match: NA

Award Period: October 1, 2001- September 30, 2002

Period Covered by this Report: October 1, 2001- March 31, 2002

B. Project Summary

The Alaska Department of Fish and Game (ADF&G) has conducted aerial surveys to assess the distribution, abundance, and spawning timing of herring stocks in Lower Cook Inlet (LCI) since 1978. Aerial surveyors also frequently noted the number and location of Steller sea lions and other marine mammals as indications that herring were in the area. However, much of this geo-referenced information is available only as notations drawn onto the paper maps surveyors used to document their observations during surveys. This project will synthesize ADF&G's LCI herring stock assessment and commercial herring fishery information into an ArcView GIS database that will be made available to other researchers via CD-ROM copies and map layouts. The resulting database is expected to have utility to other researchers attempting to better understand the relationship between Steller sea lions, commercial fisheries, and one of their shared prey species.

C. Summary of Progress and Results

The sole objective of this project is to convert the Lower Cook Inlet historical herring stock assessment and commercial fishery databases into ArcView GIS format. My proposal identified three principal tasks for this performance period. Following that list is a description of the activities undertaken to achieve the scheduled tasks.

Month 1-2 (October-November 2001): PI will hire a FWT III (non-permanent) who will, under direction from the PI, implement the tasks necessary to complete this project.

Month 3 (December 2001): FWT III will purchase computer, ArcView 3.2 software and 36" inkjet plotter; PI and FWT III will consult with Tim Haverland, ADF&G Analyst

Programmer IV, regarding the most efficient and appropriate methods to structure the GIS database and resulting CD-ROM.

Month 4-8 (January-Apr 2002): FWT III will convert the LCI herring stock assessment and commercial fishery databases to ArcView GIS using the methods described above.

Some minor modifications to the above-listed tasks were made. For example, upon further consideration I determined that the objective for this project would best be achieved by hiring a Research Analyst I, with expert ArcView GIS skills, to handle the challenges of converting a large, diverse time series of disparate information into a cohesive spatial database, and a FWT III to help digitize the vast amount of information.

Accordingly, I hired Jenny L. Cope, a FWT III, in November 2001 to make some initial equipment purchases and begin compiling and organizing the data to be digitized. In January 2002, I hired Margaret Spahn into the Research Analyst I position. With the necessary equipment purchased and project staff in place, we met with Tim Haverland, ADF&G Analyst Programmer IV, to outline the most appropriate structure for the GIS database to assure it's utility to a broad spectrum of users. Because considerable thought had gone into the proposal, only very minor changes to the database structure were suggested, primarily to accommodate the diversity of information Jenny Cope found in the data when they were being compiled and organized. No changes were made to the goals/objectives for this reporting period.

No products were scheduled for completion during this reporting period. However, I did present an overview of the project at the SSL PI Meeting in Anchorage on March 20. At that meeting, I was approached by Laura Litzky (SSLRI Project 2001-01) and asked if I could collect 30 herring from Kamishak Bay this spring to help her build a database of the fatty acid signatures of sea lion prey. I was able to fulfill her request during a research cruise in April.

Considerable progress was made towards converting ADF&G's LCI herring stock assessment and commercial fishery databases into ArcView GIS during this reporting period. Because the quantity and quality of information we have is greatest for Kamishak Bay herring, we have focused our energies on that stock. There are five major components to the Kamishak Bay herring database that we are developing: 1) herring school size and distribution (spatial and temporal), 2) herring spawning events: timing, magnitude, and spatial distribution, 3) commercial harvests: timing, magnitude, and spatial distribution, 4) marine mammal abundance and distribution (spatial and temporal), and 5) seabird abundance and distribution (spatial and temporal). We have a nearly continuous time-series of information from 1978-present that we are in the process of digitizing. During this reporting period, we digitized all of the herring school and spawning data from 2001 back to 1985. The seabird and marine mammal abundance and distribution data for the period 1989-2001 was also completed. The commercial catch data were compiled, but are not yet spatially represented in the database.

The database has already proven beneficial to researchers within and outside ADF&G. John Whitney (NOAA HazMat, Alaska Region) contacted us for sea otter information. We were able to provide him with our aerial observations on the springtime abundance and distribution of sea otters in Kamishak Bay. We were also able to update and expand ADF&G Habitat Division's database on documented herring spawning locations in Kamishak Bay. Their database is used for developing Environmental Impact Statements and spill response strategies (pers. comm., Mark Fink, ADF&G-Habitat Division).

D. Problems

We experienced no significant problems during this reporting period that prevented the completion of any scheduled tasks. We are on track to complete this project during the next and final reporting period.

Prepared by: _____
Principal Investigator

Date: _____